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19. MANTID FAUNA OF SANJAY GANDHI NATIONAL PARK, MUMBAI, WITH SOME NEW RECORDS FOR MAHARASHTRA STATE

The Sanjay Gandhi National Park (SGNP) lies in the northern region of the Western Ghats, in a general north-south direction. It has a south Indian moist-deciduous forest type with a mean annual rainfall of 2,600 mm. The Park includes various habitats like mixed moist-deciduous forest with patches of pure bamboo, teak dominated forest including teak plantation, mangrove forest along the creek and western subtropical hill forest. Because of the variety of habitats, it is rich in insect fauna. However, very little is known about the insect biodiversity of the area. The mantid fauna of the Park and its environs is reported here.

Out of 162 species found in India (Mukherjee *et al.* 1995), the present study records 11 species from the Sanjay Gandhi National Park (SGNP), Mumbai, Maharashtra. The paper also provides measurements i.e. Body length (BL), Pronotum (PN) and Forewing (FW) of male (M) or female (F) of some species not recorded earlier.

The collection was made from 1995 onwards. The specimens were collected with nets. Mantids attracted to light at night were also collected. Only a representative collection was made; known species were caught and released after confirming the identification.

The specimens so collected were identified according to Mukherjee *et al.* (1995). Some identifications were confirmed by Dr. T.K. Mukherjee.

The SGNP has 11 species belonging to 4 out of the 6 families of mantids found in India. One specimen collected earlier from Mumbai was identified as a species of *Empusa*, while another which was brought to us a few years ago from Pune by a student, was identified as *Ambivia popa* Stal. Some species like *Gongylus gongyloides* (Linn.) and *Creoboter gemmatus* (Stoll) prefer to sit on flowers of *Leea*, which attract hundreds of butterflies and other insects. *Hierodula* spp. prefer green vegetation, while *Humbertiella* spp. are found on the bark of trees.

All measurements are in mm.

A. **Family:** Amorphoscelidae Stal.

[1] *Amorphosclerosis annulicornis* Stal.

Collection site: CEC Centre, Goregaon (E) adjacent to SGNP. 20.vi.1998.

Measurements: F: BL-17; PN-3; FW-14.

Distribution: INDIA: Assam, Bihar, Daman & Diu, Himachal Pradesh, Kerala, Meghalaya, Tamil Nadu, West Bengal. New record for Maharashtra.

B. **Family:** Hymenopodidae Chopard

[a] Subfamily: Acromantinae Giglio-Tos

[2] *Hestiasula brunneriana* Saussure**Collection site:** Sanjay Gandhi National Park (SGNP), Mumbai, 12.vii.1998.**Measurements:** F: BL-28; PN-4.5; FW-24.**Distribution:** INDIA: So far recorded from Andhra Pradesh, Meghalaya, West Bengal. New record for Maharashtra.

[b] Subfamily: Hymenopodinae Giglio-Tos

[3] *Creobroter gemmatus* (Stoll)**Collection site:** CEC, Goregaon (E), Mumbai. 24.viii.1998.**Measurements:** M: BL-31; PN-7.5; FW-31.**Distribution:** INDIA: Arunachal Pradesh, Himachal Pradesh, Sikkim, Uttar Pradesh. New record for Maharashtra.C. **Family:** Mantidae Burmeister

[a] Subfamily: Liturgusinae Giglio-Tos

[4] *Humbertiella affinis* Giglio-Tos**Collection site:** CEC, Goregaon, Mumbai, 12.vii.1998.**Measurements:** M: BL-25; PN-6; FW-23.The earlier recorded measurement (Mukherjee *et al.* 1995) is of a female.**Distribution:** INDIA: Karnataka, Orissa. New record for Maharashtra.[5] *Humbertiella indica* Saussure**Collection site:** SGNP, 11.v.1998.**Measurements:** M: BL-31; PN-5.5; FW-26.**Distribution:** INDIA: Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Tamil Nadu, Uttar Pradesh.[6] *Humbertiella nigrospinosa* Sjostedt**Collection site:** SGNP. 5.ix.1998.**Measurements:** F: BL-31; PN-8; FW-18.**Distribution:** recorded from Orissa, Uttar Pradesh. New record for Maharashtra.

[b] Subfamily: Mantinae Kirby

Tribe: Miomantini Beier

[7] *Deiphobe infusca* (Saussure)**Collection site:** 1 male, 1 female from: SGNP, 11.v.1999 and 14.v.1999.**Measurements:** M: BL-85; PN-23; FW-52
F: BL-87; PN-27; FW-22**Distribution:** INDIA: Bihar, Himachal Pradesh, Jammu & Kashmir, Madhya Pradesh, Tamil Nadu, Uttar Pradesh. New record for Maharashtra.[8] *Deiphobe incisia* Werner**Collection site:** CEC, Goregaon (E) adjacent to SGNP. 6.viii.1995.**Measurements:** M: BL-84; PN-24; FW-43.**Distribution:** INDIA: Maharashtra, Madhya Pradesh, Punjab, Rajasthan, Uttar Pradesh.

Tribe: Mantini Beier

[9] *Hierodula saussurei* Kirby**Collection site:** Male and Female from SGNP. 12.vii.1998.**Measurements:** M: BL-57; PN-18; FW-41
F: BL-74; PN-23; FW-48**Distribution:** Arunachal Pradesh. New record for Maharashtra.[10] *Hierodula (Rhombodera) butleri* Wood Manson**Collection site:** SGNP, 7.vi.1998.**Measurements:** M: BL-60; PN-18; FW-43.**Distribution:** INDIA: Assam, Meghalaya, Sikkim, West Bengal. New record for Maharashtra.D. **Family:** EMPUSIDAE Burmeister

[e] Subfamily: Empusinae Saussure

[11] *Gongylus gongylodes* (Linnaeus)**Collection site:** SGNP. 10.xi.1995.**Measurements:** F: BL-80; PN-41; FW-28.**Distribution:** INDIA: Andhra Pradesh, Kerala, Tamil Nadu, West Bengal. New record for Maharashtra.

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October 15, 1999 NARESH CHATURVEDI
VITHOBA HEGDE
*Bombay Natural History Society,
Hornbill House, S.B. Singh Road,
Mumbai 400 023,
Maharashtra, India.*

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20. RECENT RECORD OF *CREOBROTER APICALIS* SAUSSURE
(INSECTA : MANTODEA) FROM PUNE, MAHARASHTRA AND KUMTA, KARNATAKA

(With one plate)

During 1997-98, we came across a very colourful mantis in the areas around Pune (Mulshi, Aundh Road, Kondhawa). We collected 3 specimens (all three females) from Pune and one in Santegully near Kumta (Karnataka). The taxonomic characters of the insect are given below.

Head triangular. Vertex with a small spine above ocelli. Frontal sclerite transverse, bicarinate and with central depressed area. Frontal sclerite with small, lateral wing-like expansions. Eyes large, conical, bulging beyond the circumference of the head. Pronotum with dentate lateral edge and prominent coxal dilation. Forecoxae with 6-7 small spines; forefemur with 4 external, 4 discoidal and 13 internal spines, all the spines brown-tipped. Femoral brush brownish, claw groove proximal. Foretibia with 15 external and 15 internal brown-tipped spines; of these, external spines bent at base and closely set; mid and hind femora each with a small lateral apical lobe. Forewings grass green, costal area translucent. Oblique oval, yellow patch bordered laterally by two black semicircular rings in the central part of each forewing. This so called 'eye mark' encloses 1, 2 or 3 black dots. Basal yellow patch on each forewing. Hindwings with characteristic colour pattern, costal area translucent yellow, base pink or purple, discoidal and anal areas brown with hyaline cross veins.

Body colourful. Head mostly greenish-yellow, vertex dark green. Pronotum dark green with a complete faint yellow border. All legs yellowish with olive-green bands. Meso- and metathoracic segments dorsally brown. First four or five abdominal segments pink in the mid-dorsal area, rest of the segments brownish (Plate 1, Fig. 1). Ventrally, thorax and abdomen uniformly greenish-yellow.

Measurements (in mm) of a Mulshi specimen: female, 21.vii.1998, coll. N. Rane, Body length 33.0; forewing 28, hind wing 25; prozona/metazona 3/4.5; forecoxa 8; forefemur 10.2; foretibia 5.3. The other two mantid specimens are very similar in morphometry.

With the help of a recent report on the fauna of Mantodea (Mukherjee *et al.* 1995) we could easily identify this interesting mantis as a species of *Creobroter*, on the following grounds. Family Hymenopodidae (external spines of the foretibiae numerous, bent and very closely set; forewing with eye-like mark); Subfamily Hymenopodinae (frontal sclerite with two lateral wing-like expansions and central depression; eyes bulging beyond the circumference of head); Genus *Creobroter* (ventral lobes of mid and hind femora occupy distal position only).

Specific determination of this insect was based on personal communication with Dr. T.K.